BOTANICAL GAZETTE.

Vol. 2. APRIL, 1877. *No. 6.*

NOTES ON THE ARBOREOUS, ARBORESCENT AND SUFFRUTICOSE FLORA OF OREGON (concluded).—*Fraxinus Oregana*, Nutt. Along streams and lowlands, attains 3 feet in diameter, generally smaller, low and scrubby, very little clear lumber to be had from the best trunks. It is used chiefly for fuel and is estimated for this purpose to be nearly double the value of either of the species of *Abies*, and brings about twice as much per cord in the market. As fuel its value is about equal to that of the oak, and very large quantities are now used in the country and the supply must soon become exhausted near the cities.

Celtis reticulata, Torr. A shrub of straggling growth, 6 feet high at the Dalles of the Columbia, fruiting abundantly, fruit dark brown when ripe.

Quercus Douglasii. Hook. This is the only species observed on the Williamette or Columbia rivers. It disappears near the coast and does not reach far into the Cascades. It seems confined to tne hilly regions of valleys and attains 2 and 3 feet in diameter, rarely 4 feet, but is low and scrubby. Some trees will afford a 12 foot stick comparatively free from knots. The branches are wide spreading and drooping, often coming so near the ground that they can be reached with the hand. *Phoradendron flavescens*, var. *pubescens* grows upon this tree exclusively and is not rare on the lower drooping limbs. It is the hard-wood tree of the carriage maker and is extensively used in the manufacture of heavy wagons, but all light carriage material is brought from the Eastern States.

Castanopsis chrysophylla, A. DC. A branching shrub, 4 feet high in the Cascade mountains, with fruit resembling the chestnut.

Corylus rostrata, Ait., var. *Californica*, A. DC. The shrub of the usual size has rounder, not pointed leaves and the beak of the fruit quite short, the upper as well as the lower surface of the leaves pubescent, serratures much finer. Along streams, rather rare.

Myrica Californica, Cham. & Schlecht. Sandy hills on the coast. A shrub 4 to 10 feet high with lanceolate, toothed leaves.

Betula pumila, L. A shrub 3 to 4 feet high, in ponds.

Alnus Oregana, Nutt. (*A. rubra*, Bongard). A medium sized tree on stream banks in the valleys, the largest attaining 3 feet in diameter and 40 to 60 feet in height. Mostly scrubby and very little clear lumber can be made from the best trunks.

Salix longifolia, Muhl. On the Williamette River, 6 to 8 feet high.

Salix lanceolata, Anderson. A tree a foot in diameter, 30 feet high, with lanceolate, long pointed, smooth, finely serrated leaves, on banks of streams.

Salix chrysophylla, var. *pellita*, Anderson. Wet Alpine woods in the Cascades. A low shrub.

Salix Sitchensis, Bongard. A large shrub with silvery silky leaves, very pretty.

Salix sessilifolia, var. *villosa*, Nutt. A shrub on the Williamette River, 4 to 6 feet high, with whitish villous leaves.

Some other undetermined species occur.

Populus balsamifera, L. This is the common poplar of this State, attaining 4 feet in diameter, generally 2 to 3. It grows frequently symmetrical and rather tall and often affords logs for clear lumber. It abounds on the streams and lowlands in the valleys, and though common it is not abundant. It is used to some extent for lumber.

The leaves are rather lanceolate and not cordate, approximating or passing into *P. angustifolia*, Torr.

Populus tremuloides, Michx. A much rarer tree, abounding only in certain low wet localities. In size and habitat it is very much as it is found in the Eastern States.

Pinus ponderosa, Dougl. The true Douglasian form occurs mostly as a low scrubby tree on the dry slopes of the Cascades and bluffs of the Columbia River. It is used to some extent in the manufacture of lumber and for fuel.

Pinus contorta, Dougl. Two forms of the species occur in the Cascade mountains, mostly as mere shrubs, but sometimes attaining 30 feet in height and 4 to 6 inches in diameter.

Pinus albicaulis, Eng. On Mt. Hood at the limit of tree growth where it shelters in ravines and on the eastern sides of large rocks from the fierce western gales that prevail on that famous, perpetually snow-capped mountain. Some interesting effects of the influence of strong constant air currents upon tree growth are exhibited here not only in the leaning trunks, but in the decumbent and elongating mode of development seen in this species. Finding a resting place on the east side of some huge rock it grows erect until the top reaches the summit, from which the limbs elongate and spread eastward to a surprising length. The uppermost branches are often dead and bleached to a snowy whiteness. The species as developed here, was in staminate flower the first of August, no cones were seen. It grows 6 inches in diameter, low and straggling.

Pinus monticola, Dougl. A small tree resembling the white pine of the eastern states, grows along streams in the high Cascades, a foot in diameter and 40 to 50 feet high. The cones are large, 6 to 10 inches long, with rounded obtuse scales.

Abies Mertensiana, Lindl. This tree much resembles *A. Canadensis* of the eastern states. It occupies vast areas in the middle Cascades, but reaches the valleys sparingly. Some of the densest forests of the country are composed exclusively of this species, often growing so thickly as to shut out the light of the sun. Altitude changes the appearance of this species as it also does in some others. The valley specimens have a rather smooth bark, whilst the mountain forms have a rough furrowed bark. The trees average about 2 feet in diameter and reach the height of 200 feet in the Cascades, but they are little used at present, being mostly inaccessible in the mountains.

Abies Pattoniana, Jeffrey. (*A. Williamsoni*, Newberry.) This is a small species in the Alpine regions of the Cascades. It grows 6 inches to 2 feet in diameter and 40 to 60 feet high. It reaches, along with *Pinus albicaulis*, to the limit of trees on Mt. Hood. The gloom of these Alpine woods is made more dreary by the vast abundance of the dark gray lichen *Alectoria Fremontii*, Tuck., hanging in dense festoons from all the branches of this tree, evidently dwarfing it in its growth both in diameter and altitude, as it is said to grow much larger and taller at lower elevations.

Abies Douglasii, Lindl. This stands at the head of the forest trees of Oregon both in regard to size and stateliness and in its value to the industries of the country. It attains 6 and 8 feet in diameter, and, rarely, 300 feet in height, generally 200 to 250 feet and 2 to 4 feet in diameter. It is extensively manufactured into lumber for all building purposes. It affords probably 50 per cent. of all the fuel used by the inhabitants in the valley regions. The bark is thick and rough. It bears fruit abundantly.

Abies grandis, Lindl. This is the next most valuable timber tree. Attains equal height to *A. Douglasii*, but is much less in diameter (2 to 3½ feet). The bark is smooth, with blisters containing resin, which makes the handling of the wood very annoying, as the hands and clothing become coated with it. It is used for lumber and for fuel. The branches are short and symmetrically arranged, the whole tree forming a beautiful cone. The leaves are dark green, resembling *A. balsamea* of the eastern states. The cones are produced very sparingly on the topmost branches, the scales deciduous

Abies subalpina, Eng. This is a small tree in the Alpine regions confounded till recently with *A. grandis*. It is a beautiful symmetrical tree 30 to 60 feet high.

Abies Englemanni, Parry. In the higher Alpine regions, about Alpine prairies, etc. A stately tree of small diameter, growing so densely in its peculiar habitats, that no trunk can fall to the ground alone. Circular areas of an acre or two are frequently seen in the Alpine heights where the entire growth has been prostrated and lies a labyrinth of trunks that have apparently fallen in every direction, evidently caused by the action of a circular wind, no effects of which are to be seen outside of the prostrated areas. This tree in fruit, etc., much resembles *A. Menziesii* of the coast region, and is probably no more than a high mountain form of it.

Abies Menziesii, Dougl. This tree abounds in the coast regions to a limited extent where it fruits abundantly. It is not known to be of much importance to the country.

Taxus brevifolia, Nutt. Grows nearly or quite upright and attains a diameter of a foot or over, but is low and scraggy, with spreading, drooping limbs. The foliage is bright green and ornamental. It is used for fence posts chiefly on account of its durability, but it is scarce and of no great value to the country on that account. The berries are red and edible when ripe in September.

Juniperus communis, L., var. *alpinus*, Parl. This is a trailing form of the species, never rising from the ground but trailing and rooting from its limbs, forming large clumps 10 to 20 feet in diameter. Occurs at the limit of trees on Mt. Hood.

Cupressus Nutkanus, Hook. A low branching shrub in the Alpine regions of Mt. Hood. Identification doubtful.

Thuja gigantea, Nutt. Called cedar by the inhabitants. Is a tree of average size and height, 1 to 4 feet, generally 2 to 3 feet in diameter and 60 to 150 feet high. Inhabits the mountain ranges, reaching the Williamette valley at some localities. It is much used for shingles and split boards, being remarkable for straightness of grain and facility of splitting, often to very long lengths of even proportions. It is a valuable tree, but now nearly all the region where it plentifully abounds has been run over by the fires and it only exists as dead, blackened stumps, standing or prostrate, soon to be lost to the country. This destruction of forests in Oregon by fire seems to have been recent. The huge standing or prostrate dead trunks, now almost universal in the Coast range and over large areas of the Cascades, testify to the millions the country has lost by this destructive element.—ELIHU HALL, Athens, Ill.

BRYOLOGICAL NOTES; BY C. F. AUSTIN.—DIDMYODON WOLLEI (*Barbula? Wollei*, Aust., Bot. Gazette, March, 1877).—Plantæ dense cæspitosæ, fragiles saturate viridis; caule erecto subsimplici, foliis siccitate subcrispatis madefactis subcirrhatis subcanaliculatis vel apice excepto planiusculis paulo undulatis margine planis minute papilloso-crenulatis apice pugioni formi-acutatis, costa percurrente, vel brevissime excurrente haud lutescente; flores et fructu ignoti.

Rocks in a ravine, near Bethlehem, Pa., *Rev. F. Wolle.*

Somewhat intermediate between *Barbula cæspitosa* and *Didymodon cylindricus*. From the former it differs in its longer stems, rather broader less carinate less undulate and more fragile leaves, not uniformly recurved-patent when moist, less pellucid at the base, and with the costa neither pellucid when moist nor shining on the back when dry. Very near the latter, but differing in its more robust habit, shorter and broader leaves rather less pellucid at the base and more or less contracted at the apex into a dagger-shaped canaliculate point.

ATRICHUM SELWYNI, *n. sp.*—*Ab A. angustato* proximo differt; foliis latioribus subspathulatis plerumque obtusis basi excavatis, costæ lamellis solum 4–6 altioribus, *calyptra læviss ima*.

North West Coast of British America, 1875, *Macoun.*

Stems about ½ inch high. Leaves lanceolate-oblong, subspatulate, mostly obtuse, the base excavated, the lamellæ of the costa 4-6, broad; otherwise they are about as in *A. angustatum*. Inflorescence dicecious; male plant not seen. *Calyptra perfectly naked*!

The capsule is rather shorter than usual in *A. angustatum*, otherwise it is much the same.

BARTRAMIA MACOUNI, *n. sp.*—Plantæ subrobustæ (magnitudine *B. pomiformis*), cæspites sat densos molles pallide cineraceo-virides formatæ; caule unciali et longiore flexuoso-erecto fasciculatim ramoso inferne parceradiculoso; foliis mollibus in siccis laxe subcirrhato-crispatis in humore strictiusculis erecto-patentibus undique vergentibus longe lineali-lanceolatis leviter carinatis facie superiori indistincte papillosis, margine leniter incrassato inferne subrecurvo planove superne argute serrato, costa longe excurrente dorso apicem versus subserrata, reti perminuto quadrato-rotundo, basilari paululum latiori lineari ferrugineo, perichætialibus 2–3 multum minoribus angustioribus erectis; capsula in pedicello 6–8 lineas longo exserta globosa siccitate subhorizontali et leviter striata, parietina mollissima e cellulis oblatis rotundisve inflatis pellucidis formata, annulo nullo, operculo depresso-conico obtusissime mammillato; peristomii dentibus sat rubris solidis latis tæniato-subulatis integris lævissimis crebre (circiter 25) articulatis humiditate in conum conniventibus, ciliis paululum latioribus brevioribus luteis subdicranis lævibus subnodulosis, ciliolis longioribus et brevioribus solidioribus angustissimis rufescentibus; sporangio libero: florescentia synoica; flore adspectu laterali perminuto, organis genitalium utriusque sexus paucis, paraphysibus paucissimis.

Vancouver's Island, May, 1875, *Macoun*.

Near *B. Œderi* (GUNN.) SWARTZ in general appearance, but it is really a very distinct species, as a comparison of the above description with the following notes will show:—*B. Œderi*, is somewhat smaller in size and usually of a ferrugineous or fuscous green color. The stems are very radiculose below; leaves more distant, much shorter, more rigid, strongly recurved whenmoist, more carinate, very stronglyrevolute on the margin, still less distinctly papillose above, the cells mostly paralellogramoid; capsule dark colored and strongly ribbed when dry, of a much more solid and opake texture, the cells oval and somewhat larger; peristomal teeth a little less solid, not so closely articulated, more suddenly narrowed above the base, not so even on the margin, less fragile, the ciliæ rather more perfect; sporangium not free; flower larger; perichætial leaves like the stem-leaves; paraphyses many times more numerous and very conspicuous.

DICRANUM MACOUNI, *n. sp.*—Plantæ sat dense cæspitosæ, pallidæ, stramineo-virides vel subalbescentes; caule strictiusculo erecto subsimplici fere ad apicem breviter rufotomentoso, foliis subsecundis a basi anguste lanceolata sensim longe subulato-acuminatis semiconvoluto-concavis leniter falcatis lævissimis integerrimis vel apice extremo obsolete serratis, costa tenui sub apice finienti, reti minutissimo cellulis a basi usque ultra medium angustissimis linearibus, illis versus apicem multum brevioribus duplo latioribus subovalibus discretis, illis inflatis ad angulos paucis luteis spatii inter marginem et costam vix ultra dimidium occupantibus: sterile.

Peace River, 1871 *Macoun*.

Readily distinguished from all its congeners by its smooth and entire leaves, with a very light costa and with long and extremely narrow cells.—About the size of *D. albicans* and *D. Sauteri*.—The leaf-cells are much narrower than in any other species known to me.

DICRANELLA CANADENSIS (MITT.) *Cynodontium Canadensis*, MITT. *in the Jour of the Linn. Soc.* 8, *p.* 17.—Size of the plant, capsule, peristome, etc., precisely as in *D. varia* (which probably accounts for its being generally overlooked) The shape and position of the leaves however are quite different—more as in *D. squarrosa*. However, in texture they are nearer to the former species. In D. CANADENSIS the perichætial leaves are like the stem-leaves in size, position, etc., (semivaginal at the base and recurved-spreading); in *D. varia*, on the contrary, they are diminished in size, erect, not vaginal,

at the base; furthermore the leaves of the latter are every way like those of *Leptotrichum tortile*. Mr. Macoun has found both *D. Canadensis* and *D. varia* on Vancouver's Island. Of the latter species he has sent me a fine specimen; but of the former only a small fragment, which appears to have got accidentally mixed with *Barbula unguiculata*. It is probable that this moss is not rare in the North West.

FISSIDENS HALLII, *n. sp.*—Statura facieque *F. incurvis*, statim dignoscitur tamen foliis margine crenulatis haud limbatis, operculo longius rostrato (semper?) calyptra vix ad basim rostri producta basi haud fissa etc.—Capsula erecta, pedicello mediocriter longo, florescentia dioica, plantæ utriusque sexus immixtæ.

Texas, *Hall*.

FISSIDENS INCURVUS (W. & M.) SCHWGR, var. LONGIPES.—Differt a forma normali pedicello ratione cauli longiore, antheridiis 1–3 nudis in foliorum axilis eparaphysatis, etiam in eodemque caule cum pistillidiis paraphysatis apicali.

On the ground, Vancouver's Island, 1875, *Macoun*.

FISSIDENS INCURVUS var. MONOICUS. (*F. monoicus*, AUST. *in litt. ad* SULLIV., 1869.) Habitu, foliatione, etc., normali sed florescentia *F. bryoidis*.

On a moist red shale bank of the Black River, at Vleet-Town, Hunterdon county, New Jersey, August, 1877. (Matures in July and August.)

The var. SYNOICUS (*F. synoicus* Sulliv.) matures its fruit late in autumn. It grows on limestone banks and rocks along streams. (Haverstraw, Albany, Watkin's Glen, &c., in New York, also Canada and Ohio.)

The var. MINUTULUS (*F. minutulus* and *F. exiguus*,) SULLIV. matures in summer. It occurs only on stones in damp places, shaded ravines, about springs, etc. (*F. Closteri*, AUST. may be looked for wherever this var. occurs; it matures in August.)

The var. CRASSIPES (*F. crassipes* WILS.) is found in somewhat similar situations as the preceding var.; but along larger and less limpid streams, and where it is subject to inundation, often for several weeks at a time.

The more normal forms, of this, in some respects, extremely variable species, do not appear to occur east of the Rocky Mountains, except in the Southern and South-western States.

F. DECIPIENS DENOT. SULLIV. *Icon. Suppl.* (*F. rupestris* WILS.) Occurs on shaded rocks in mountainous localities, throughout the Middle and Eastern States. I first separated this species from *F. adiantoides*, its nearest ally, by its subterminal fruit and minute leaf-cells, ten years ago, and had kept it under Wilson's name.

It occurs abundantly on trunks of trees in Florida.

F. TAXIFOLIUS HEDW. is common on moist shady banks (never truly on rocks) in the Middle States. Like the preceding species (also *F. adiantoides* and *F. osmundioides*) it matures its fruit late in autumn.

ENCALYPTA MACOUNI, *n. sp.*—Ab *E. affinis* HEDW. *f.* (*E. apophysata* N. H. S.) proxima recedit follis muticis, costa sub apice fluente, capsula (valde immatura) magis-apophysata (sinistram versus leniter torta?) peristomii dentibus brevioribus dimido-angustioribus, calyptra basi elegantissime fimbria, persistente, et al

Stewart's Lake Mountains, June, 1875, *Macoun*.

Calyptra about as large as in the largest examples of *E. ciliata*, light fuscous yellow, (the fringe brown, uniform, narrow and delicate) densely papillose over the whole surface. Pedicel reddish, minutely papillose, rather densely so above the middle, more remotely so below it, slightly twisted to the right in drying. Apophysis at the base of the capsule very large. Peristome single, the teeth of medium length, very narrow and filiform, red, more or less split into two equal segments nodulose and granulose Leaves much crisped when dry, straight and erect when moist, narrowly ligulate, carinate, broadly revolute on the margin, mutic, very opake; the costa ceasing below the apex and densely papillose on the back Perichætial leaves much smaller and thinner,

the innermost scarcely exceeding the vaginula, with a broad subvaginal base and a lingulate, very obtuse apex. Inflorescence monœcious, male flower on a short stalk.

A Moss New to the United States.—*Pilotrichum undulatum*, Beauv., a West Indian moss. occurs, in a small collection of plants made recently near Fort Reid, on the upper St. Johns, Florida, by Miss E. S. Boyd. The specimens, though scanty, are in fruit. The moss has a general resemblance to small specimens of *Nectera penata*, but the leaves are very inequilateral, and strongly nerved more than half way; and the perichætial leaves, are peculiar, the lower ones ovate-acuminate with squarrose tips, and the upper ones narrowly linear, very slender, and overtopping the capsule. With it were also *Pilotrichum cymtifolium*, Sull., *Leucobryum minus*, *Thuidium tamariscinum*, a large sterile *Fissidens*, and the red Louisiana lichen, *Chiodecton rubro-cinctus*, Nylander.—Daniel C. Eaton, New Haven, March 29, 1877.

Botanical Contributions by Asa Gray, *Proc. Amer. Acad.*, *Vol.* 12. *December*, 1876.—This contribution to North American Botany is one full of interest. The list of new species is large and principally western, though there is quite a representation from the south. The pamphlet also contains two fine plates, one of *Arctomecon Californicum*, Torr., and the other of a new genus and species *Canbya candida*, Parry. Then follows a description of the new genus dedicated by Dr. Parry to Mr. Wm. M. Canby and a reconstruction of the very rare genus *Arctomecon*, Torr. These genera belong to the order *Papaveraceæ* and are both very peculiar in the persistency of the corolla. The new genus was discovered in S. E. California by a botanical party, consisting of Doctors Palmer and Parry and Mr. Lemmon, May 18, 1876. The new species are supplied by various parties, Rev. E. L. Greene, T. S. Brandegee, Dr. Parry, Dr. Rothrock, and Powell's Expedition of 1875, being the principal contributors. Of course the numbers of the *Astragali* are increased in this case by an addition of seven species and two varieties. The proportions this genus is beginning to assume as our western territory is becoming more thoroughly explored is something startling. A new *Lespedeza* is described, having been found in Minnesota, Illinois and Iowa.

The relations of *Clethra* and *Pyrola* are considered and rather than break up the original *Ericaceæ* into seperate orders, as has been done by DeCandolle and other European botanists, Dr. Gray combines *Clethra* and the tribe *Pyroleæ* into the third sub-order, *Pyrolineæ*. The section *Steironema*, Raf. of *Lysimachia* is restored to generic rank and hence the species of N. United States are as follows:

Steironema ciliatum, Gr.=*Lysimachia ciliata*, L.
S. radicans Gr.=*L. radicans*, Hook.
S. lanceolatum, Gr.=*L. lanceolata*, Walt.
S. longifolium, Gr.=*L. longifolia*, Pursh.

The genus *Asclepias* and its allies are rearranged in the following genera; *Podostigma*, Ell., *Anantherix*, Nutt.(§ 2 of *Acerates* in Gray's Man., 5th Ed.), *Asclepiodora*, Gr. (containing *Acerates paniculata*, Decaisne.), *Asclepias*, L., *Acerates*, Ell., *Schizonotus*, Gr. (containing *Gomphocarpus purpurascens*, Gray, Bot. Calif.), and *Gomphocarpus*, R. Br. A key is also given to the North American species of the genus *Asclepias*. Dr. Gray also gives a conspectus of the confused and difficult genus *Gonolobus*, Michx., with the sections *Dictyolobus*, *Eugonolobus* and *Chthamalia*, the last being reduced from generic rank.—J. M. C.

On Excrescences and Excentric Wood Growths in the Trunks of Trees.—This is the subject of a communication of Mr. Thomas Meehan to the Academy of Natural Sciences of Philadelphia, December 19, 1876, and appears in the Proceedings, Part III, of that year. The strange excrescences found in so many of our trees have often been the causes of no small curiosity in regard to the cause of their formation. Till very lately these monstrous growths have been referred to insects as their origin. Mr. Meehan calls attention to the fact that these excrescences were often of a uniform

character in each species of tree. They are not merely abnormal developments of the bark, but are composed of true woody fibre disposed in annual rings and surrounded by bark, as though they were so many separate centers of growth. Mr. Meehan suggests the following explanation of these excrescences. By experiment it is shown that there is no difference in the first place in any part of the cambium layer or layer of growth, although subsequently the inner part produces wood cells. "The same cell may become permanent tissue or generating tissue, and from the generative tissue may come before the season of growth closes every form of structure known to anatomists, from pure wood to the outermost cuticle of the bark. We know that cell-growth is not always uniform in its operations. The law that changes the outermost series of newly cells into liber need not necessarily operate so exactly as to make them perfect to this end—a few may be thrown off into the liber as generative tissue—and, granting this possibility, we see how the woody granules in the apple bark are formed." In this same way, Mr. Meehan infers, the larger excrescences with rings of growth are formed. In this case "the imperfectly formed liber cells, still retaining their generative power, make a growth the next season, forming a layer of wood and making its own cortical layer, simultaneous with the normal wood growth of the tree, assimilating from the same store of reserve material that the normal growth does."—J. M. C.

WOLFFIA.—*Wolffia* in Gray's Manual, page 480 (Ed. of 1869), is described as having "*fronds rootless*, proliferous from a cleft or funnel-shaped opening at the base, the offspring soon detached." Last summer I watched *Wolffia* pretty closely and with much interest. In plants from my locality the manner of its reproduction seems to be this. I noticed plants that were nearly spheres, others that were oblong, or prolate spheroids, and of these some had indentations about the middle, which varied in depth, until in some of the plants the two portions were merely in contact and these soon went apart, making two perfect plants.—DR. H. C. BEARDSLEE, *Painesville, Ohio.*

Prof. Theo. B. Comstock, of Cornell University, proposes to conduct an "Aquatic Summer School of Natural History." A steamer is to be chartered for four or six weeks to cruise along the "south and west shores of Lakes Erie, Huron and Superior, thence along the north and east shores of the same waters." The route is certainly a tempting one to botanists and the fee, $125 including everything for 30 days, is so moderate that we have no doubt many will be temqted to make application to join the expedition.

We take pleasure in calling attention to a circular issued by H. Eggert of St. Louis, Mo. It surely presents a rare chance to botanists to obtain sets of the fine and many rare plants found in the neighborhood of St. Louis. We have received a set of Mr. Eggerts' plants and have found them to be exceedingly fine specimens and can cordially recommend them to our friends. Mr. Eggert offers for sale or exchange a selection from a list of about 500 species collected in the vicinity of St. Louis. He allows those who wish to buy, the privilege of chosing from the list such plants as they desire to obtain, at the rate of 6 cents per species for full and complete specimens. Dr. George Engelmann is given as reference. The list may be procured by addressing H. Eggert, 918 Wash St., St. Louis, Mo.

In a note from Prof. M. W. Harrington, written from Leipzig, Germany, the following is of general interest. "The great German botanist, Prof. Hofmeister, died a few days ago. The two parts of his *Handbuch der Physiologischen Botanik*, promised for 1876, were not prepared and the book must therefore remain unfinished. To those who have possessed the earlier parts—some already 10 years old—this must be a source of great regret.

ALBINISM IN PLANTS.—In the Oct. No. of the BULLETIN I see a notice of a white *Lobelia syphilitica*, L. In confirmation of this fact, I will state that I have found two

similar specimens, one in 1873 and another this fall. The one found this season was almost pure white, and was found in a large group of its kindred, which were all of their natural color. My specimens were both in full bloom when found.

I have also found, every spring for the last seven years, some specimens of white, or whitish plants of *Eupatorium serotinum*, Michx., but these have invariably resumed their natural green color by flowering time. This peculiarity was not confined to specimens that grew in deep shades, but was observed as well in examples that grew exposed to bright sunlight.—J. SCHNECK.

CAMPTOSORUS RHIZOPHYLLUS.—In a note from Miss H. J. Biddlecome, of Springfield Ohio, the following is of general interest—"In No. 6, Vol. I, a writer, referring to variations of the basal lobes of *Camptosorus rhizophyllus*, mentions having a specimen in which one of the lobes is prolonged out from the rhachis from an inch to an inch and a half. I have three times found specimens having the lobe extended on one side five inches, in two of them the apex had taken root, but had not yet given rise to a plant."—J. M. C.

RECENT PUBLICATIONS.—*American Journal of Science and Arts*, February. Dr. Gray gives a very interesting review of Charles Darwin's new book on "The Effects of Cross- and Self-Fertilization in the Vegetable Kingdom," The book is principally devoted to the details of experiments going to prove that cross-fertilization is beneficial to the plant. Dr. Gray says that the book is not light reading, but if it is as interesting as his view, it is well worth a careful persual.

The Gardener's Monthly, February. Mr. Meehan thinks that the extreme views of so many botanists in respect to the necessity of cross-fertilization are weakening. According to Dr. Gray, nature's golden rule for flowers is, "Get fertilized, cross-fertilized if you can, close-fertilized if you must." W. M. Canby gives a short, but interesting note upon the singular anology in *Darlingtonia* and *Sarracenia*.

Bulletin of the Torrey Botanical Club, January. The second article on "Libraries and Herbaria" gives an account of the New York State Herbarium located at Albany. "It is intended to represent and illustrate the Flora of the State and comprises about 1600 species of Phænogans and 2500 of Cryptogams.

Report of the Botanist, made to the Regents of the University of the State of New York. This report, from the twenty-seventh annual Report on the New York State Museum of Natural History, was received after the twenty-eighth, which was noted in the last number of the GAZETTE. Mr. Peck seems to be diligently engaged, not only in describing new fungi, but in mounting and arranging botanical specimens of all kinds. The report contains descriptions of 39 species of fungi new to science. It is also valuable to all who are desirous of working up the fungi of their region, for it contains full direction for their collection and preservation.

A Grand International Exposition of Horticulture and the Products of the Vegetable Kingdom is to be held in Amsterdam from April 13 to May 2, and in connection with it a congress of Horticulturists and Botanists, by whom many important questions will be discussed on the theory of Botany, the Practice of Horticulture, and the cultivation of the most important vegetable products, such as cotton, tobacco, quinine, indigo, etc. The prizes will consist of medals of gold, silver, and bronze and certificates, to be awarded by a jury of Dutch and foreign scientific gentlemen. We do not know whether any preparations have been made in this country for contributing to the Exhibition, but it is to be feared that the notices have been sent too late to enable advantage to be taken of them here.—W.

Address: John M. Coulter, Hanover, Ind.
M. S. Coulter, Logansport, Ind.

Terms:—Subscription $1.00 a year. Single Numbers 10 cents.